

Serial No. 10/579,036

Docket No. 7372/88139

Page 2

IN THE CLAIMS:

The following listing of claims replaces all prior versions and listings of claims in the present application:

Listing of Claims:

1. (Currently amended) A method for manufacturing a compound semiconductor epitaxial substrate comprising a step of epitaxially growing an InGaAs layer on an InP single crystal substrate or on an epitaxial layer lattice-matched to the InP single crystal substrate under conditions of

ratio of V/III: 10 - 100,

growth temperature: 630°C - 700°C, and

growth rate: 0.6 µm/h - 2 µm/h,

wherein the InP single crystal substrate has a plane direction accuracy of ±0.05° in the (100).

2. (Cancelled)

3. (Previously presented) The method according to claim ~~claim~~ 1, wherein the epitaxially growing is carried out by using metal-organic chemical vapor deposition (MOCVD).

4. (Previously presented). The method according to claim 1, wherein the epitaxially growing of the InGaAs layer includes use of

Serial No. 10/579,036

Docket No. 7372/88139

Page 3

gallium raw material selected from the group consisting of trimethyl gallium and triethyl gallium.

5. (Previously presented) The method according to claim 1, wherein the epitaxial growing of the InGaAs layer includes use of indium raw material comprising trimethyl indium.

6. (Currently amended) The method according to claim 1, wherein the epitaxial growing of the InGaAs layer includes use of arsenic raw material comprising arsine.

7. (Original) A method for reducing concave defects in a compound semiconductor epitaxial substrate comprising a step of epitaxially growing an InGaAs layer on an InP single crystal substrate or on an epitaxial layer lattice-matched to the InP single-crystal substrate under conditions of

ratio of V/III: 10 to 100,

growth temperature: 630°C - 700°C, and

growth rate: 0.6 $\mu\text{m/h}$ - 2 $\mu\text{m/h}$,

wherein the InP single crystal substrate has a plane direction accuracy of $\pm 0.05^\circ$ in the (100).

8. (Currently amended) A compound semiconductor epitaxial substrate obtained by using the method according to claim 1.